1 Megapixel HD-AVS Camera User’s Manual

Version 1.0.0

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Welcome

Thank you for purchasing our HD-AVS camera!
This user’s manual is designed to be a reference tool for your system.
Please read the following safeguard and warnings carefully before you use this series product!
Please keep this user’s manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC in the IEC60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.
If this product is installed in the ceiling, please make sure the installation position can sustain the min 50N.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series HD-AVS camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.
The working temperature ranges from -40℃ to +60℃. Please keep it away from the electromagnetic radiation object and environment.
Please make sure the CMOS component is out of the radiation of the laser beam device. Otherwise it may result in CMOS optical component damage.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.
Use the dry soft cloth to clean the device. If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.
Please put the dustproof cap to protect the CMOS component when you do not use the camera.

1 General Introduction

1.1 Overview

This series megapixel HD camera conforms to the HD-AVS standard. It supports video signal high-speed long distance transmission without any delay. It can be controlled by the DVR conforming to the HD-AVS.

1.2 Features

- High-performance CMOS image sensor, megapixel definition.
- HD video, coaxial cable to transmit the control signal.
- Support 75-3 coaxial cable transmission without any loss. Transmission distance is over 500m.
- Support HD and standard definition switch.
- Support 720P@25, 720P@30, 720P@50, 720P@60.
- High speed, long distance real-time transmission.
- Support OSD (on-screen display), suitable for user self-defined setup.
- Support DC12V power supplying.
- Support 3D noise reduction(denoise),excellent performance in low illumination environment.
- IP66 compliance.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support intelligent IR function.

1.3 Functions

HD-AVS Specification

HD-AVS（High Definition Analog Video System） is an over-coaxial –cable HD video transmission standard. The technology renders two HD video formats by progressive scanning.

OSD

User-friendly on-screen display for you to select the different functions.

ICR

The IR cut removal is to filter the IR light in the daytime and then auto switch to the general fitter at night. This function allows the camera to output the high sensitivity and clear video.

Smart IR technology

The sensor controls the IR light on/off via the combination work of the hardware and software, which realizes the automatically IR light compensation according to the environment illumination.

1.4 Specifications

Please refer to the following sheet for specification.

Model / Parameter		1 Megapixel HD-AVS Camera	
		AVS-B2100	**AVS-B2102**
Video Processor		1/3" 1.3 Megapixel CMOS	
Video Format		PAL/NTSC	
Effective Pixel		1280(H)×960(V)	
Min Illumination		0.01Lux@(F1.2,AGC ON),0 Lux with IR	
Electronic Shutter		PAL：4/25s～1/45,000s NTSC：4/30~1/54,000s	
Video Standard		HD-AVS/CVBS compliance	
Video Frame Rate		1280×720@25 fps；1280×720@30 fps； 1280×720@50 fps；1280×720@60 fps	
Lens Port		M12	
Lens Type		2.8/3.6/6/8mm optional	3.6/6/8/12/16mm optional
Day/Night Switch		ICR mechanical auto switch	
Video Output		1-channel BNC HD-AVS high definition video output/ CVBS standard definition video output (Can switch.)	
Denoise (Noise Reduction)		Support 3D denoise.	
OSD Menu Control		Support	
OSD	**EXPOSURE**	Global/Centre/Centre weight/BLC/Front light/Distinguish	
	WHITE BALANCE	AWB-GW/AWB-CCT/AWB-PRO/AWB-TEMPROAL/AWB-AI/AWB-SZ	
	DAY/NIGHT	Auto/B&W/Color	
	FUNCTION	3DNR	
	ADVANCED	Mirror/Language/RS485/Video format/Version/	
	IMAGE	Sharpness/Contrastness/Saturation/Brightness	
	EXIT	SAVE/CANCEL/RESET	
Max IR Distance		30 m	50 m
Transmission Distance		Over 500m via 75-3 coaxial cable.	
Protection Level		IP66	
Working Temperature /Humidity		-40℃~+60℃. Humidity is less than 95%(no condensation)	
Power		DC 12V±10%	
Power Consumption		6W MAX (Input: 12V ⎓ 0.5A)	7.7W MAX (Input: 12V ⎓ 0.64A)
Dimension(mm)		200.2×89.1×80.4	
Weight		450g	
Installation Mode		Wall mount	

2 Framework

2.1 Dimensions

2.1.1 AVS-B2100

Please refer to the following figures for the dimension information. The unit is mm. See Figure 2-1.

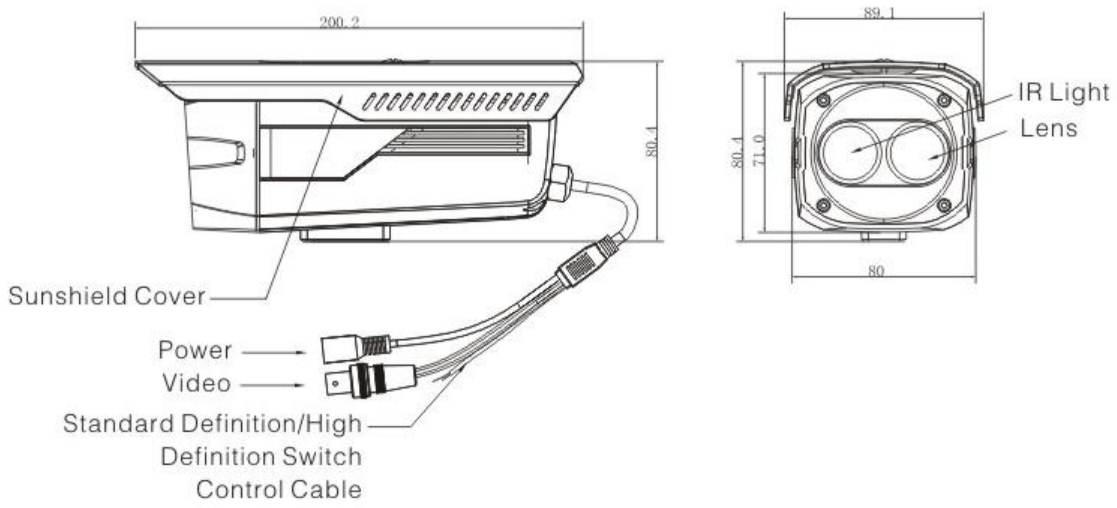

Figure 2-1

2.1.2 AVS-B2102

Please refer to the following figures for the dimension information. The unit is mm. See Figure 2-2.

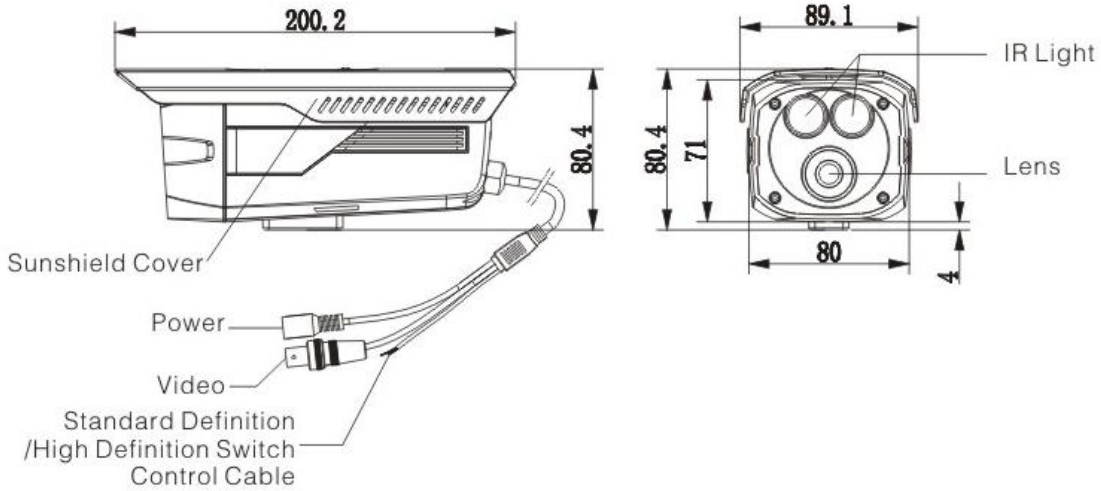

Figure 2-2

When the standard definition/high definition switch control cable is short circuit, system outputs standard definition video. Otherwise, when the circuit is open, system outputs the high definition video.

3 Installation

Important

- **Before the installation, please make sure the installation surface can sustain at least 3X weight of the bracket and the camera.**

This series product supports wall-mount. Please refer to the steps listed below for installation information. See Figure 3-1. The follow figure is for reference only.

Step 1

Install the camera bracket. Please install the expansion bolt if you want to install in the cement wall (Please make sure the installation holes of the expansion bolts are the same with the bracket.) Then you can install the bracket. If you want to install in the wood surface, please skip the first step and then use the self-tapping screws to install the bracket directly.

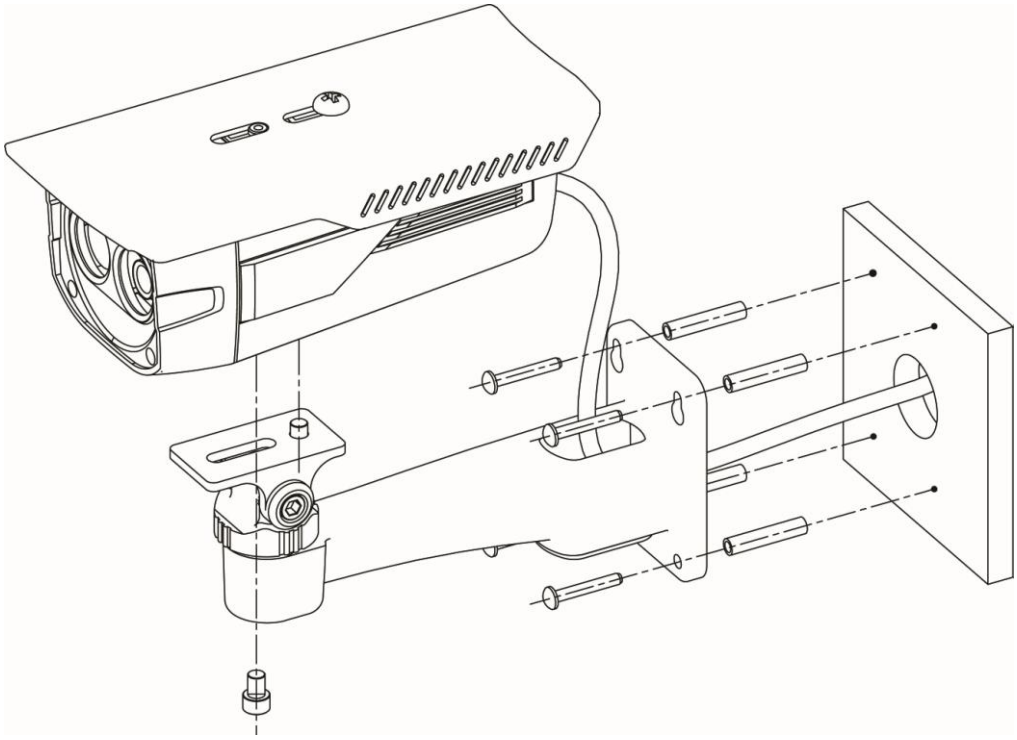

Figure 3-1

Step 2

Install the camera. Use the screws to install the camera to the bracket via the installation pedestal of the bottom of the camera.

Step 3

Adjust the camera to the proper monitor area and then secure the button of the bracket to fasten the camera.

Please note the above installation figure is based on the HAC-HFW2100BP/N series product. The HAC-HFW2100DP/N series product has the same installation steps.

4 Menu

4.1 Menu List

The 1st Menu		The 2nd Menu		The 3rd Menu	
EXPOSURE	↵	AE MODE	GLOBAL		
			CENTRE		
			CENTRE WEIGHT		
			BLC		
			FRONT LIGHT		
			DISTINGUISH		
			RETURN		
WB MODE	AWB-GW				
	AWB-CCT				
	AWB-PRO				
	AWB-TEMPORAL				
	AWB-AI				
	AWB-SZ				
DAY &NIGHT	AUTO				
	B&W				
	COLOR				
FUNCTION	↵	3D-NR	ON/OFF		
		RETURN			
ADVANCED	↵	MIRROR	OFF/HORIZONTAL/VERTICAL/H&V		
		LANGUAGE	ENGLISH		
		RS485	↵	ADDRESS	1-254
				BAUD RATE	2400-115200
				PROTOCOL	PELCOP/PELCOD/DH-SD
		VIDEO	720P@25↵ / 720P@30↵ / 720P@50↵ / 720P@60）↵		
		VERSION	XXXXXXXX		
		RETURN			
IMAGE	↵	SHARPNESS	↵	DETAIL	AUTO/MANUAL
				VALUE	0-15（For manual mode only）

The 1st Menu		The 2nd Menu		The 3rd Menu	
				EDGE	AUTO/MANUAL
				VALUE	0-15（For manual mode only）
				RETURN	
		CONTRAST	↵	0-255	
		SATURATION	↵	0-15	
		BRIGHTNESS	70-250，+10		
		RETURN			
EXIT	SAVE				
	CANCEL				
	RESET				

4.2 Note

Parameter	Function
3D NR	It is to reduce video noise. The larger the number is, the lower the noise is. The details of the video may disappear if the value here is too large.
Contrast	It is to adjust video contrast. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure.
Saturation	It is to adjust video saturation. The larger the number, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low.
Sharpness	The value here is to adjust the edge of the video. The larger the value is, the clear the edge is and vice versa. Please note there is noise if the value here is too high.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Construction Material	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**